

**Long-Term Outcomes of Subconjunctival Gel Stent with and without  
Concomitant Cataract Surgery**

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**Purpose**

To evaluate the overall efficacy of the subconjunctival gel microstent (XEN45, Allergan) in patients diagnosed with glaucoma, including a sub-analysis with/without combined cataract surgery. This study aims to bolster the current literature through inclusion of over 150 eyes with reporting of subsequent needling and/or surgical interventions.

**Methods**

Retrospective analysis of patients that received a XEN45 implant for medically uncontrolled glaucoma at a tertiary care center between January 2017-December 2018 was conducted. Demographics, intraocular pressure (IOP), anti-glaucoma medications (AGM), needling, and subsequent glaucoma surgeries were noted. Success was defined as IOP reduction > 20% from baseline and IOP < 18 mm Hg with (qualified success) or without (complete success) glaucoma medication. Subjects receiving additional surgery at any point prior to examination intervals were censored and noted as having subsequent surgeries. Patients with/without combined cataract surgery at the time of stent implantation were also compared.

**Results**

162 eyes met inclusion criteria (mean age 74, 59% female, 73% white). Mean preop IOP was 24.3 mm Hg (95% CI, 23.0, 25.6). Mean change in IOP was -9.0 (-7.4,-10.7), and -8.4 (-6.8,-9.9), at 6, and 12 months (m,  $p < .0001$  for all). Mean AGM was 3.0 (2.9,3.2) at baseline and 1.2 (1.0, 1.5) at 12m follow up ( $p < .0001$ ). 44 (27%) eyes required needling. 33 (20%) eyes required subsequent glaucoma surgery within 12m (15% repeat XEN implants, 39% trabeculectomies, 46% tube shunts). 53% and 31% of eyes met criteria for qualified and complete success at 12m. Patients that had combined cataract surgery had less IOP reduction (15%) than pseudophakic and phakic patients (39% and 38%, respectively,  $p = .001$ ).

**Conclusion**

This study highlights significant IOP and medication reductions with gel stent implantation with stringent success criteria. 20% of patients required a subsequent glaucoma surgery, besides needling or revision, within a 12 month period. Concomitant cataract surgery was associated with less IOP reduction. These findings warrant further study.